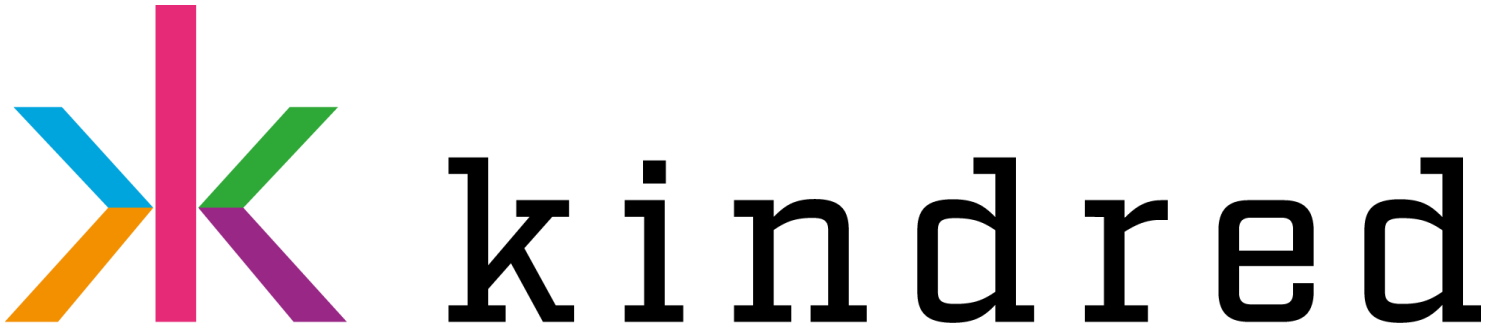

Nolla Utanförskapet: FE HTML+CSS

Kindred United

Course Teachers

HTML + CSS: (3rd February 2022)	• Elena Insheva • Ishaan Puniani
JavaScript: (8th February 2022)	• Elena Insheva • Erika Boberg
React: (10th February 2022)	• Rodolfo Ortiz

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Agenda

- Intro into FE world
- HTML && CSS
- - Examples
- JS (brief look into)
- - Examples
- Useful links
- Home assignment
- Questions?

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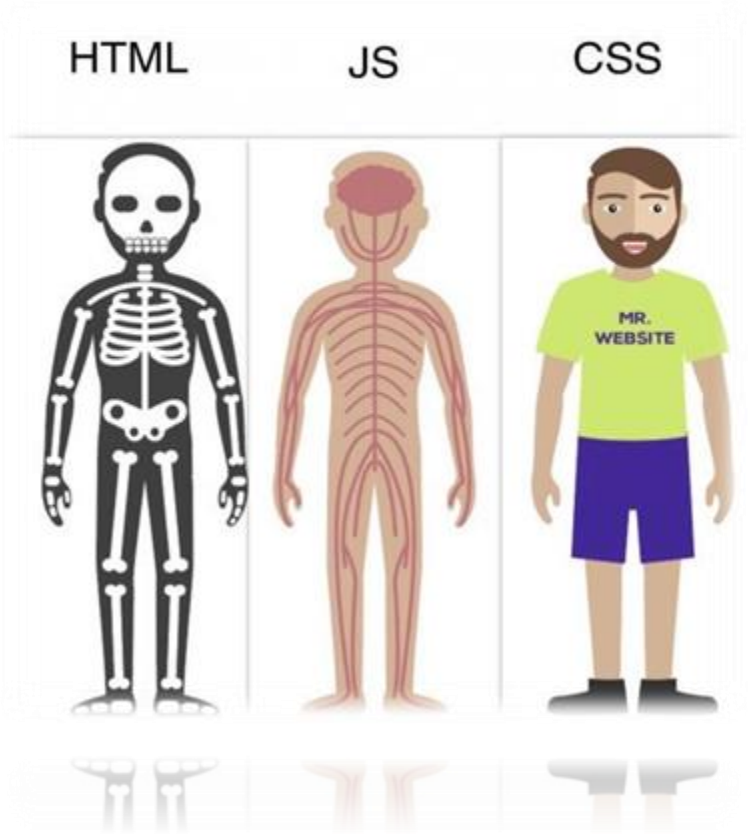
HTML & CSS & JS



HTML to define the content of web pages
CSS to specify the layout of web pages
JavaScript to program the behavior of web pages

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HTML

- HTML stands for Hyper Text Markup Language
- HTML is the standard markup language for creating Web pages
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

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A Simple HTML Document

- The <!DOCTYPE html> declaration defines that this document is an HTML5 document
- The <html> element is the root element of an HTML page
- The <head> element contains meta information about the HTML page
- The <title> element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)
- The <body> element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.
- The <h1> element defines a large heading
- The <p> element defines a paragraph

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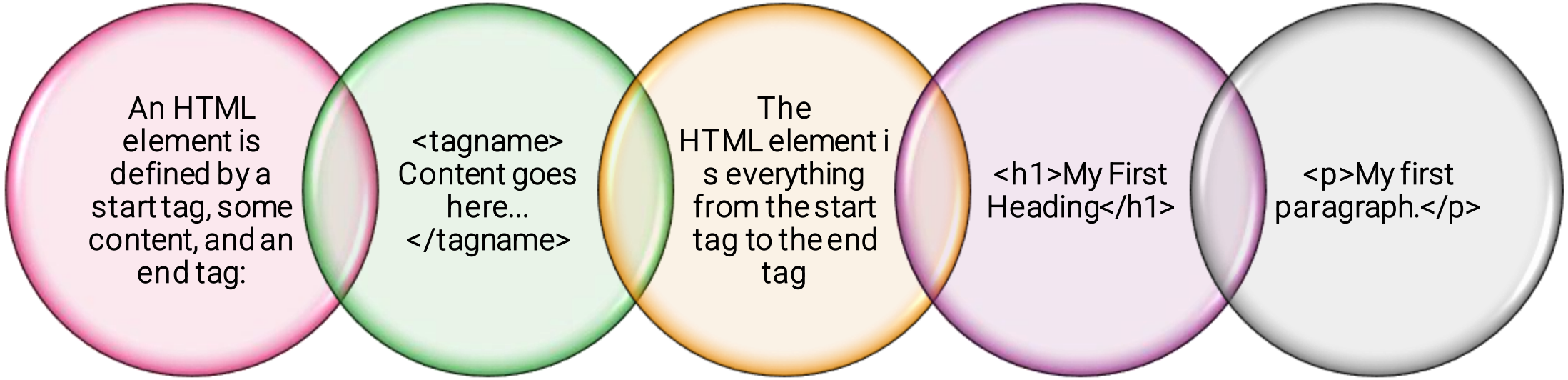
What is an HTML Element?



Start tag	Element content	End tag
<h1>	My First Heading	</h1>
	My first paragraph.	
 	none	*none*

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Web Browsers

The purpose of a web browser (Chrome, Edge, Firefox, Safari) is to read HTML documents and display them correctly

A browser does not display the HTML tags, but uses them to determine how to display the document

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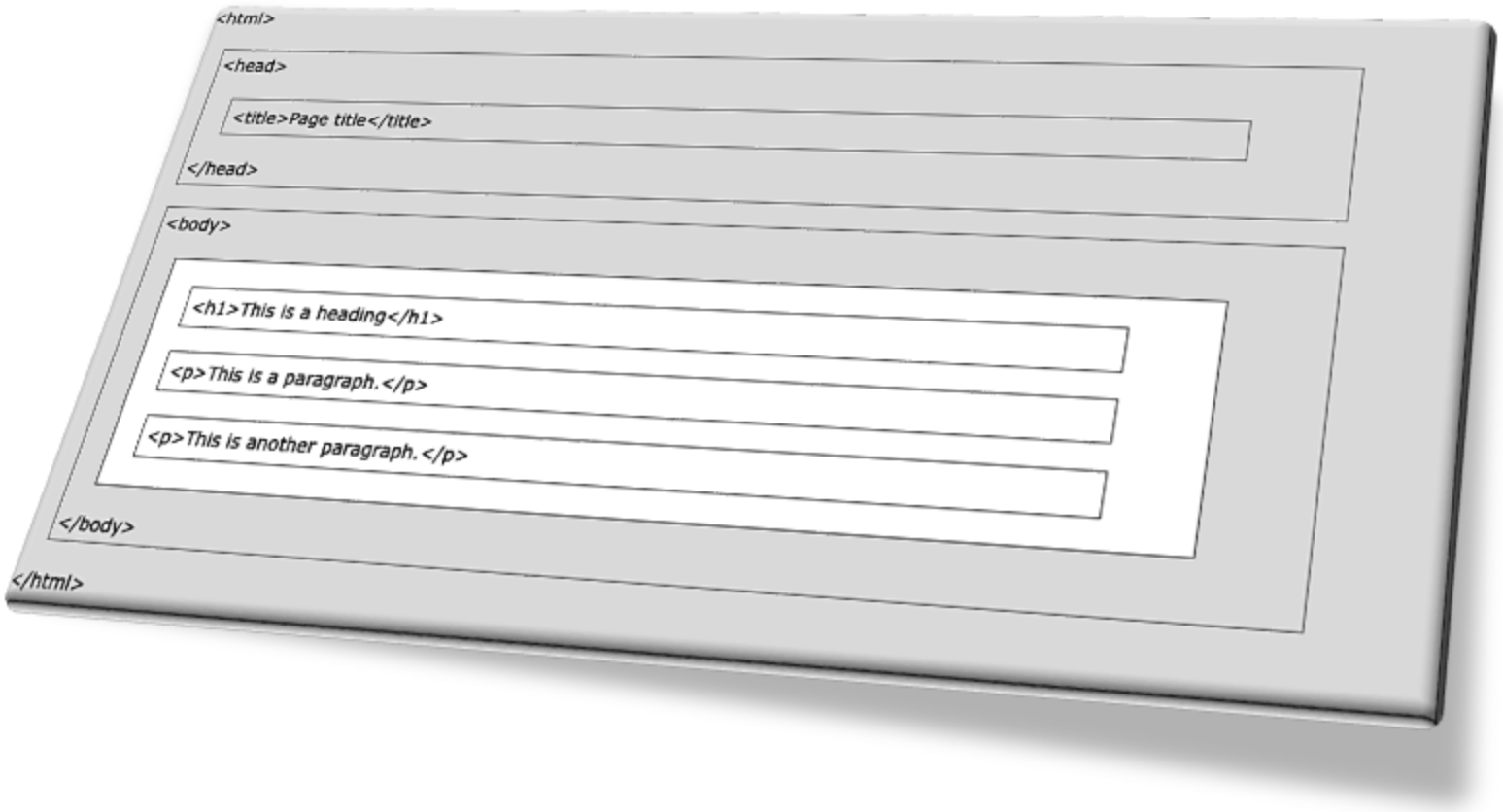
HTML Page Structure



The content inside the <body> section (the lighter area) will be displayed in a browser. The content inside the <title> element will be shown in the browser's title bar or in the page's tab

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HTML extras: Links, Images/Videos

HTML links are defined with the **<a> tag**

The link's destination is specified in the **href attribute**

Attributes are used to provide additional information about HTML elements

Example

```
<a href="https://www.w3schools.com">This is a link</a>
```

HTML images are defined with the **<img> tag**

HTML videos are defined with the **<video> tag**

Example

```
<img src="w3schools.jpg" alt="W3Schools.com" width="104" height="142">
```

Example

```
<video width="320" height="240" autoplay muted>
  <source src="movie.mp4" type="video/mp4">
  <source src="movie.ogg" type="video/ogg">
Your browser does not support the video tag.
</video>
```

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HTML iframes

An HTML iframe is used to display a web page within a web page

The HTML <iframe> tag specifies an inline frame

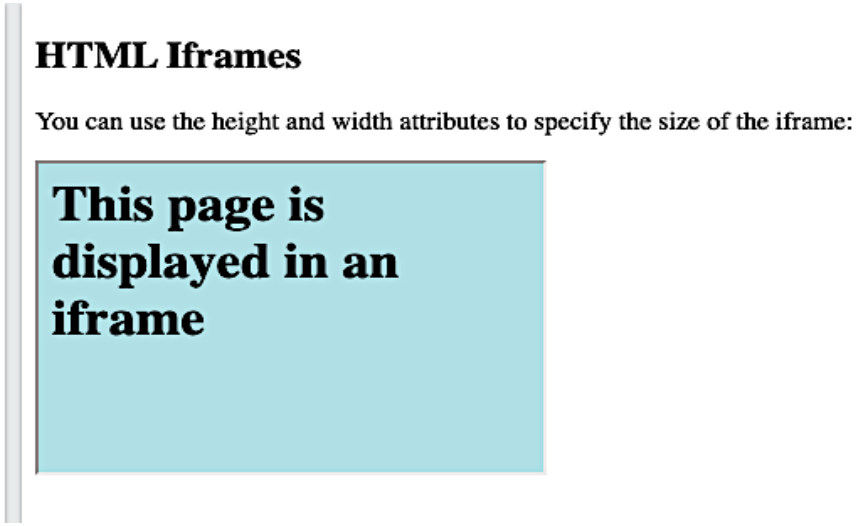
An inline frame is used to embed another document within the current HTML document

```
<!DOCTYPE html>
<html>
<body>

<h2>HTML Iframes</h2>
<p>You can use the height and width attributes
to specify the size of the iframe:</p>

<iframe src="demo_iframe.htm" height="200"
width="300" title="Iframe Example"></iframe>

</body>
</html>
```


HTML Iframes
You can use the height and width attributes to specify the size of the iframe:
This page is displayed in an iframe

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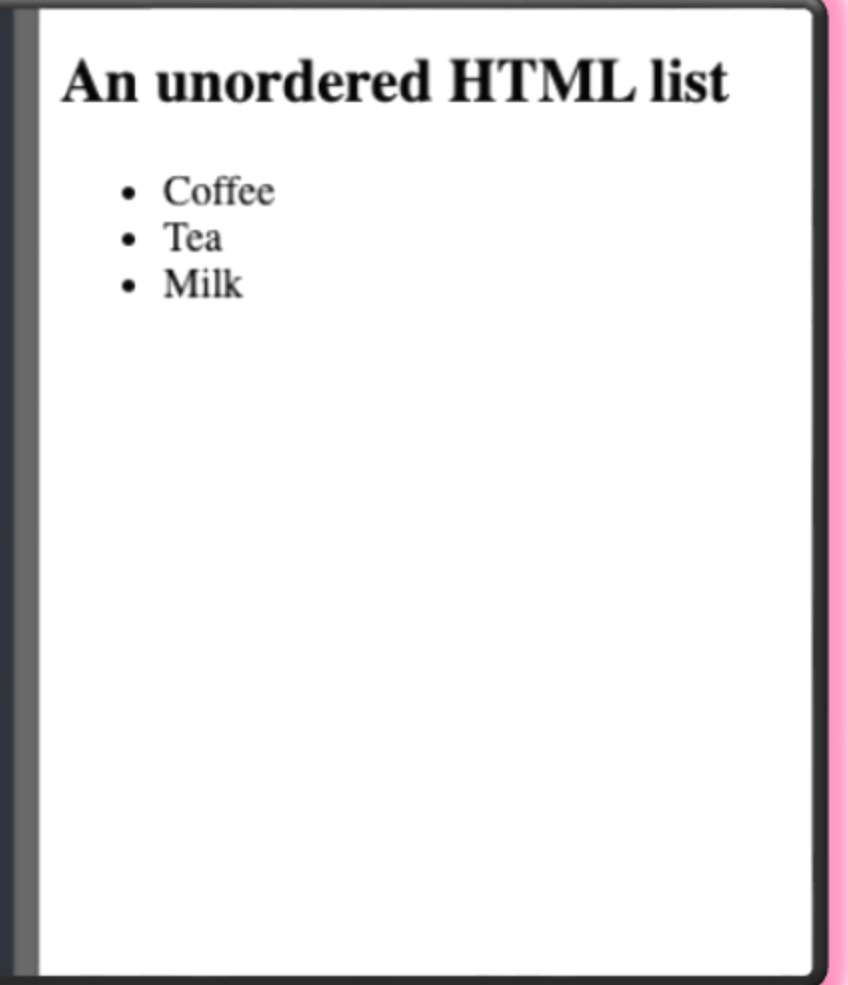
build with HTML: Lists

```
<!DOCTYPE html>
<html>
<body>

<h2>An unordered HTML list</h2>

<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>

</body>
</html>
```



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build with HTML: Tables

```
<!DOCTYPE html>
<html>
<body>

<h2>HTML Tables</h2>

<p>HTML tables start with a table tag.</p>
<p>Table rows start with a tr tag.</p>
<p>Table data start with a td tag.</p>

<hr>
<h2>1 Column:</h2>

<table>
  <tr>
    <td>100</td>
  </tr>
</table>

<hr>
<h2>1 Row and 3 Columns:</h2>
<table>
  <tr>
    <td>100</td>
    <td>200</td>
    <td>300</td>
  </tr>
</table>

<hr>
<h2>3 Rows and 3 Columns:</h2>
<table>
  <tr>
    <td>100</td>
    <td>200</td>
    <td>300</td>
  </tr>
  <tr>
    <td>400</td>
    <td>500</td>
    <td>600</td>
  </tr>
  <tr>
    <td>700</td>
    <td>800</td>
    <td>900</td>
  </tr>
</table>

<hr>

</body>
</html>
```

HTML Tables

HTML tables start with a table tag.

Table rows start with a tr tag.

Table data start with a td tag.

---

1 Column:

100

---

1 Row and 3 Columns:

100 200 300

---

3 Rows and 3 Columns:

100 200 300
400 500 600
700 800 900

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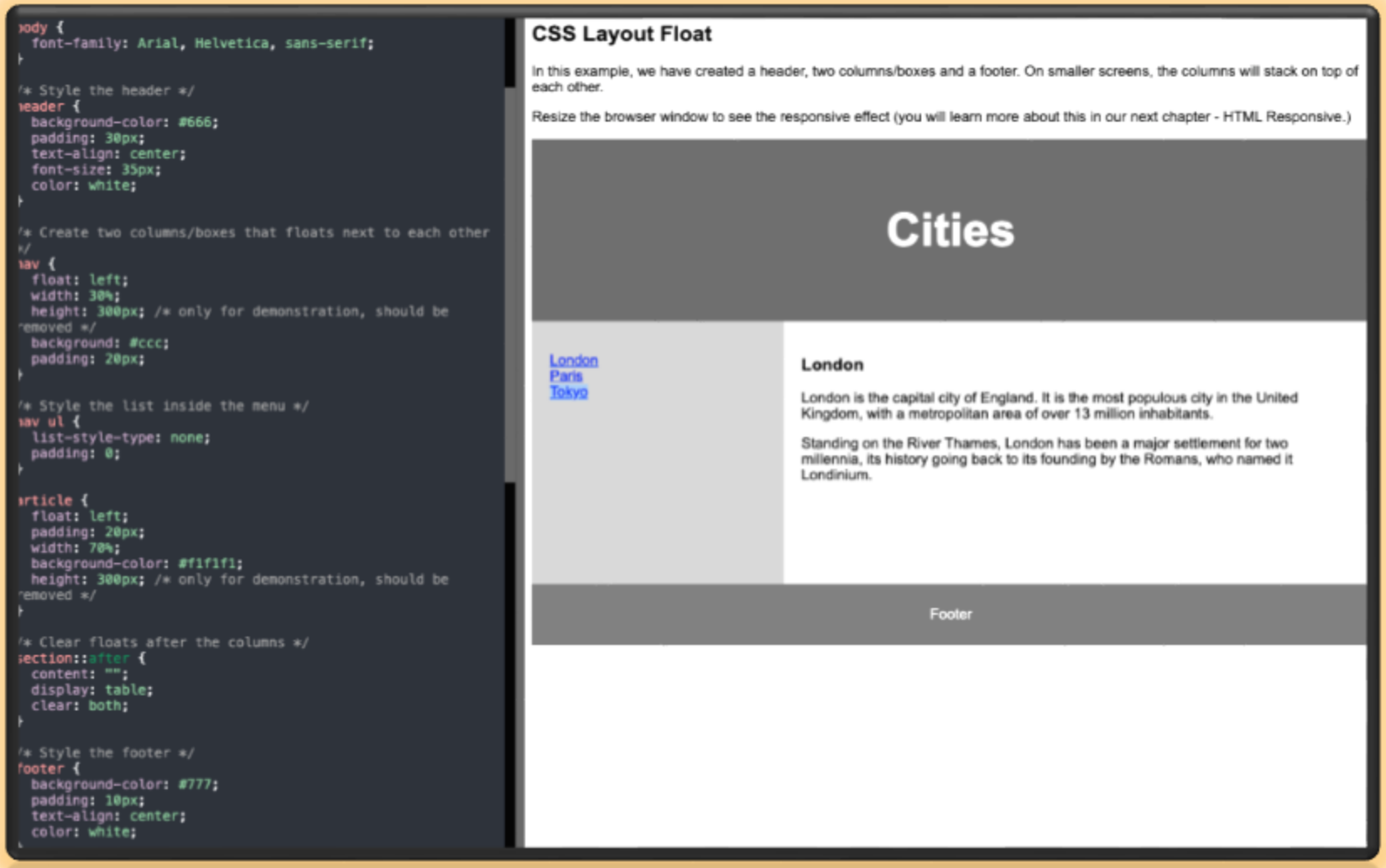
build with HTML: Layouts



```
body {
  font-family: Arial, Helvetica, sans-serif;
}

/* Style the header */
header {
  background-color: #666;
  padding: 30px;
  text-align: center;
  font-size: 35px;
  color: white;
}

/* Create two columns/boxes that floats next to each other
*/
nav {
  float: left;
  width: 30%;
  height: 300px; /* only for demonstration, should be
removed */
  background: #ccc;
  padding: 20px;
}

/* Style the list inside the menu */
nav ul {
  list-style-type: none;
  padding: 0;
}

article {
  float: left;
  padding: 20px;
  width: 70%;
  background-color: #f1f1f1;
  height: 300px; /* only for demonstration, should be
removed */
}

/* Clear floats after the columns */
section::after {
  content: "";
  display: table;
  clear: both;
}

/* Style the footer */
footer {
  background-color: #777;
  padding: 10px;
  text-align: center;
  color: white;
}
```

CSS Layout Float
In this example, we have created a header, two columns/boxes and a footer. On smaller screens, the columns will stack on top of each other.
Resize the browser window to see the responsive effect (you will learn more about this in our next chapter - HTML Responsive.)
Cities
London
Paris
Tokyo
London
London is the capital city of England. It is the most populous city in the United Kingdom, with a metropolitan area of over 13 million inhabitants.
Standing on the River Thames, London has been a major settlement for two millennia, its history going back to its founding by the Romans, who named it Londinium.
Footer

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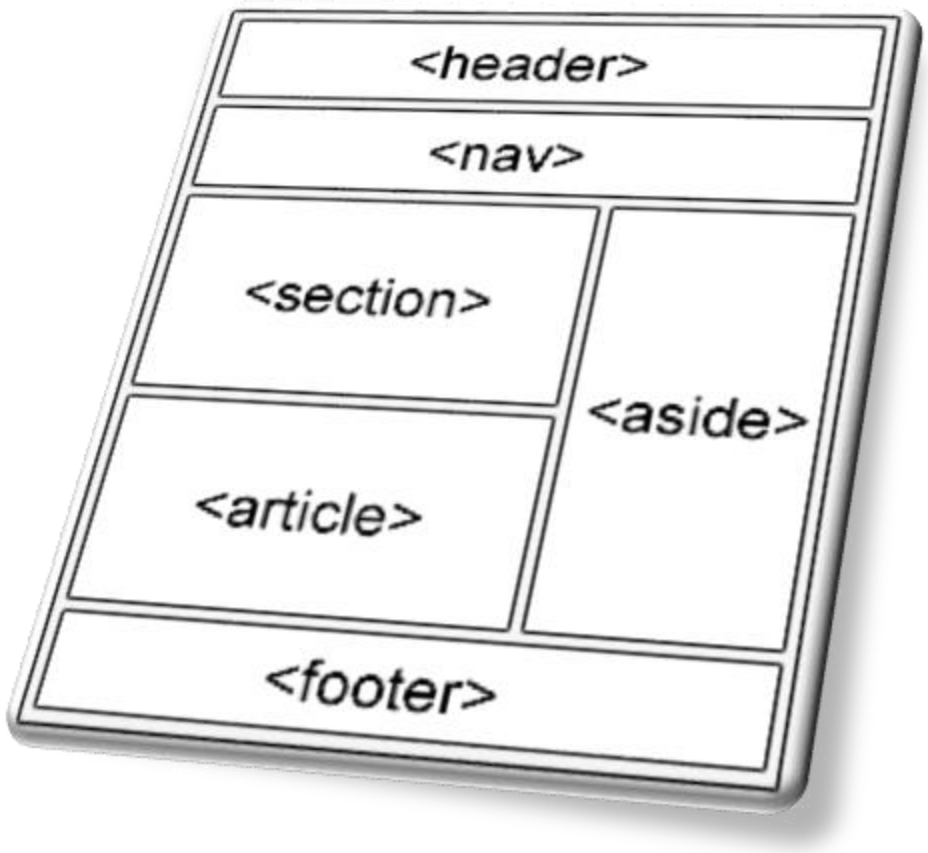
HTML Layout Elements

- <header> - Defines a header for a document or a section
- <nav> - Defines a set of navigation links
- <section> - Defines a section in a document
- <article> - Defines an independent, self-contained content
- <aside> - Defines content aside from the content (like a sidebar)
- <footer> - Defines a footer for a document or a section
- <details> - Defines additional details that the user can open and close on demand
- <summary> - Defines a heading for the <details> element



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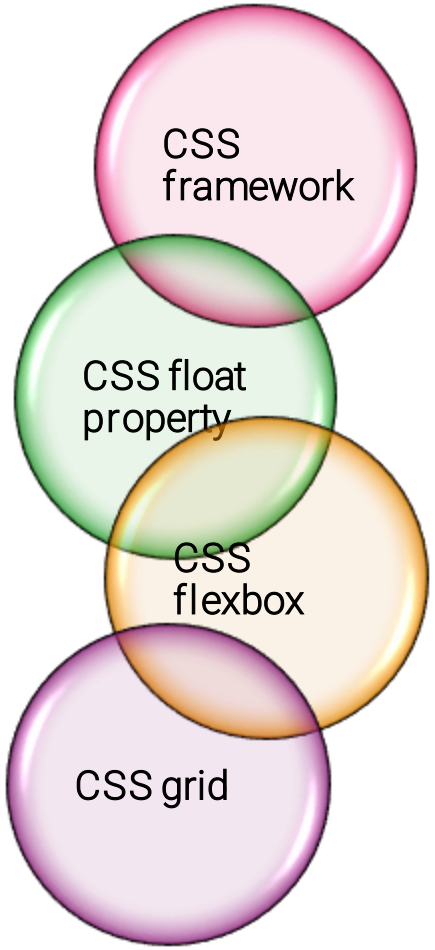
HTML Layout Techniques

Flexbox

One-dimensional layout

Grid

Multi-dimensional layout



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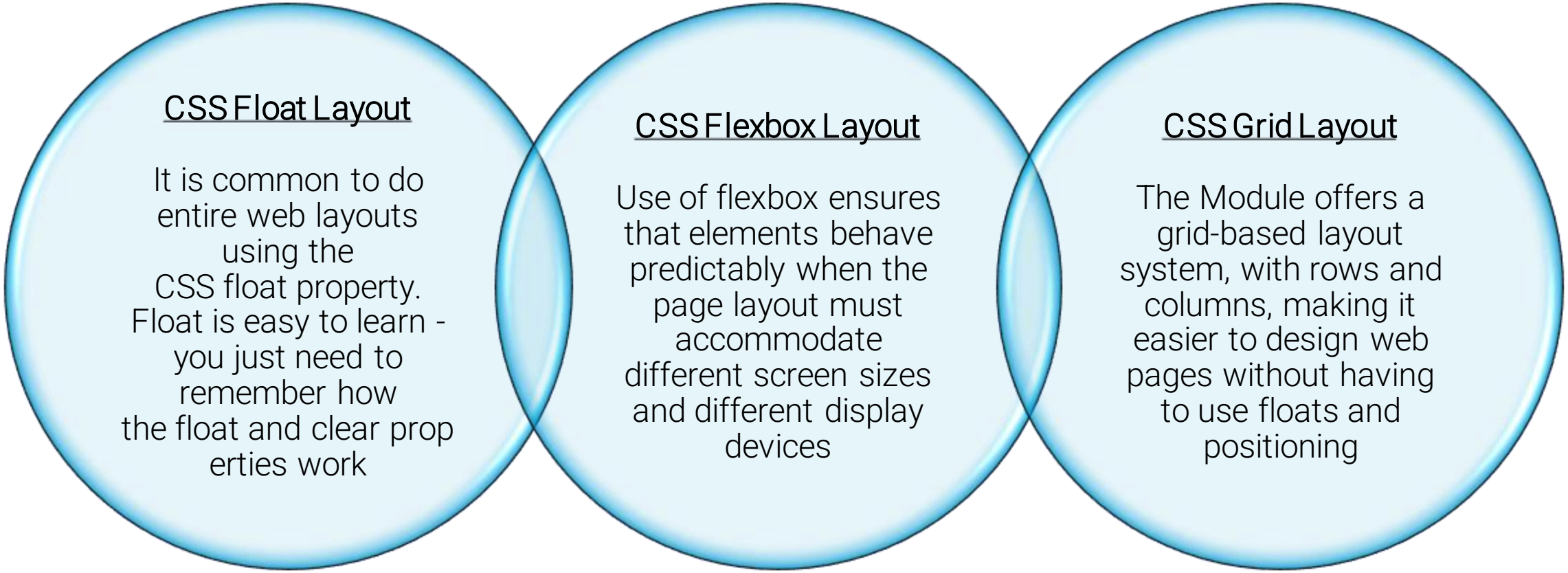
CSS Float Layout


CSS Float Layout
It is common to do entire web layouts using the CSS float property. Float is easy to learn - you just need to remember how the float and clear prop erties work
CSS Flexbox Layout
Use of flexbox ensures that elements behave predictably when the page layout must accommodate different screen sizes and different display devices
CSS Grid Layout
The Module offers a grid-based layout system, with rows and columns, making it easier to design web pages without having to use floats and positioning

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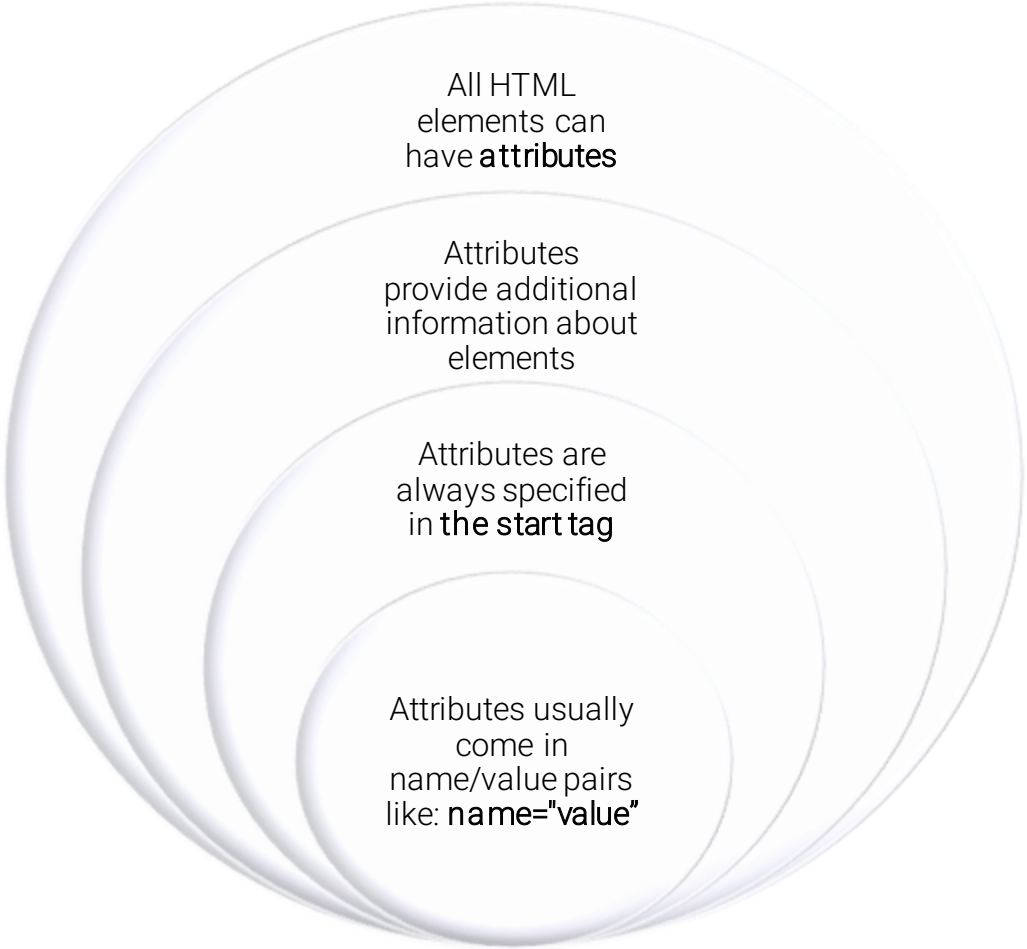
HTML Attributes


All HTML elements can have attributes
Attributes provide additional information about elements
Attributes are always specified in the start tag
Attributes usually come in name/value pairs like: name="value"

- The **href attribute** of <a> specifies the URL of the page the link goes to
- The **src attribute** of <img> specifies the path to the image to be displayed
- The **width and height attributes** of <img> provide size information for images
- The **alt attribute** of <img> provides an alternate text for an image
- The **style attribute** is used to add styles to an element, such as color, font, size, and more
- The **lang attribute** of the <html> tag declares the language of the Web page
- The **title attribute** defines some extra information about an element

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href Attribute & src Attribute

The <a> tag defines a hyperlink

The href attribute specifies the URL of the page the link goes to

Example

```
<a href="https://www.w3schools.com">Visit W3Schools</a>
```

The <img> tag is used to embed an image in an HTML page

The src attribute specifies the path to the image to be displayed

Example

```
<img src="img_girl.jpg">
```

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width, height and alt Attributes

The <img> tag should also contain the width and height attributes, which specifies the width and height of the image (in pixels)

Example

```
<img src="img_girl.jpg" width="500" height="600">
```

The required alt attribute for the <img> tag specifies an alternate text for an image, if the image for some reason cannot be displayed.

This can be due to slow connection, or an error in the src attribute, or if the user uses a screen reader

Example

```
<img src="img_girl.jpg" alt="Girl with a jacket">
```

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lang Attribute & title Attribute

You should always include the lang attribute inside the <html> tag, to declare the language of the Web page. This is meant to assist search engines and browsers

```
<!DOCTYPE html>
<html lang="en-US">
<body>
...
</body>
</html>
```

The title attribute defines some extra information about an element

Example

```
<p title="I'm a tooltip">This is a paragraph.</p>
```

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id Attribute

```
<!DOCTYPE html>
<html>
<head>
<style>
.city {
  background-color: tomato;
  color: white;
  border: 2px solid black;
  margin: 20px;
  padding: 20px;
}
</style>
</head>
<body>

<div class="city">
<h2>London</h2>
<p>London is the capital of England.</p>
</div>

<div class="city">
<h2>Paris</h2>
<p>Paris is the capital of France.</p>
</div>

<div class="city">
<h2>Tokyo</h2>
<p>Tokyo is the capital of Japan.</p>
</div>

</body>
</html>
```

The HTML **id attribute** is used to specify a unique id for an HTML element

You cannot have more than one element with the same id in an HTML document

The attribute is used to point to a specific style declaration in a style sheet. It is also used by JavaScript to access and manipulate the element with the specific id

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class Attribute

```
<!DOCTYPE html>
<html>
<head>
<style>
.city {
  background-color: tomato;
  color: white;
  border: 2px solid black;
  margin: 20px;
  padding: 20px;
}
</style>
</head>
<body>

<div class="city">
<h2>London</h2>
<p>London is the capital of England.</p>
</div>

<div class="city">
<h2>Paris</h2>
<p>Paris is the capital of France.</p>
</div>

<div class="city">
<h2>Tokyo</h2>
<p>Tokyo is the capital of Japan.</p>
</div>

</body>
</html>
```

The HTML **class attribute** is used to specify a class for an HTML element

Multiple HTML elements can share the same class

The class attribute is often used to point to a class name in a style sheet. It can also be used by a JavaScript to access and manipulate elements with the specific class name

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style Attribute

```
<!DOCTYPE html>
<html>
<body>

<p>I am normal</p>
<p style="color:red;">I am red</p>
<p style="color:blue;">I am blue</p>
<p style="font-size:50px;">I am
big</p>

</body>
</html>
```

I am normal

I am red

I am blue

I am big

The style attribute is used to add styles to an element, such as color, font, size, and more

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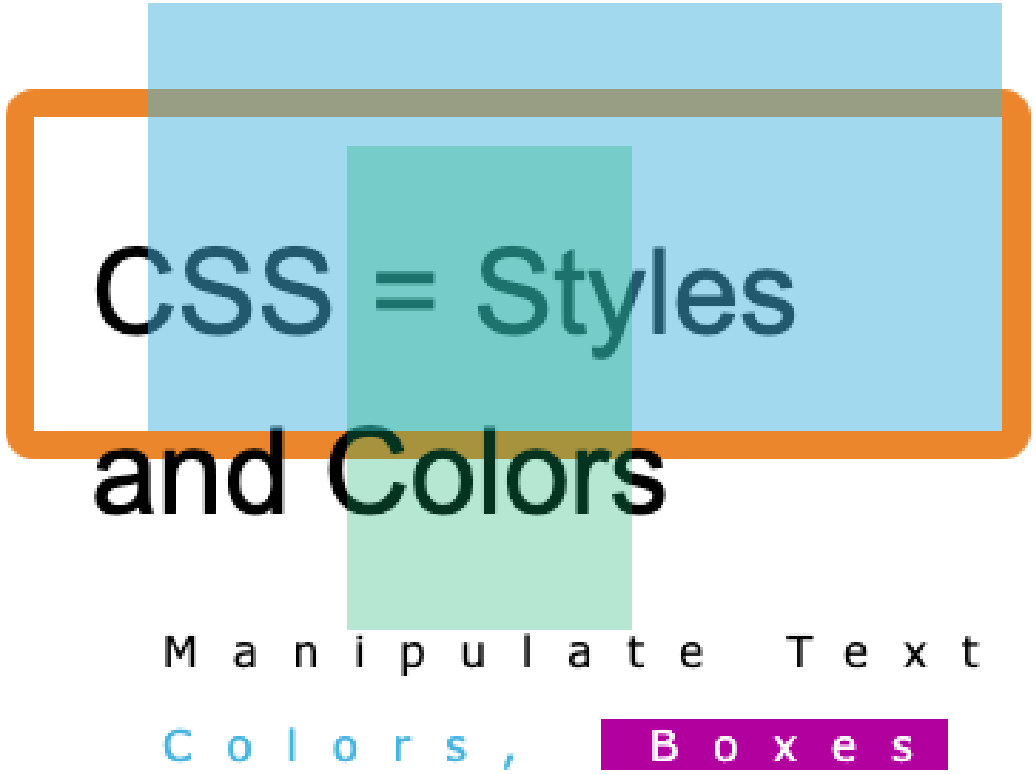
HTML Styles - CSS

Cascading Style Sheets (CSS) is used to format the layout of a webpage.

With CSS, you can control the color, font, the size of text, the spacing between elements, how elements are positioned and laid out, what background images or background colors are to be used, different displays for different devices and screen sizes, and much more!



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Using CSS

CSS can be added to HTML documents in 3 ways: Inline, Internal, External

Inline - by using the style attribute inside HTML elements

Internal - by using a <style> element in the <head> section

External - by using a <link> element to link to an external CSS file

The most common way to add CSS, is to keep the styles in external CSS files

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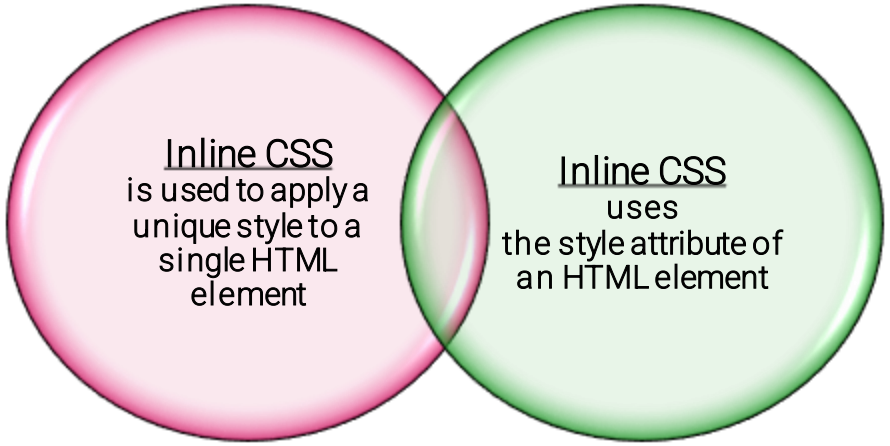
Inline & Internal CSS

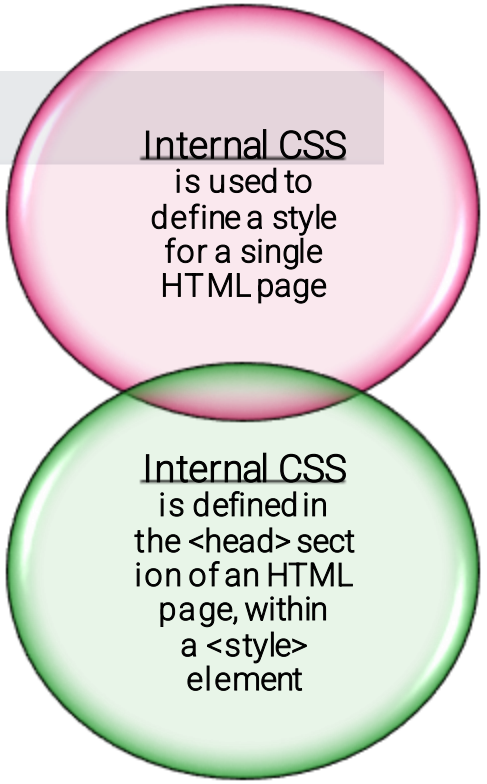


Example

```
<h1 style="color:blue;">A Blue Heading</h1>

<p style="color:red;">A red paragraph.</p>
```

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
body {background-color: powderblue;}
h1   {color: blue;}
p    {color: red;}
</style>
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```


Internal CSS
is used to define a style for a single HTML page
Internal CSS
is defined in the <head> section of an HTML page, within a <style> element

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External CSS

Example

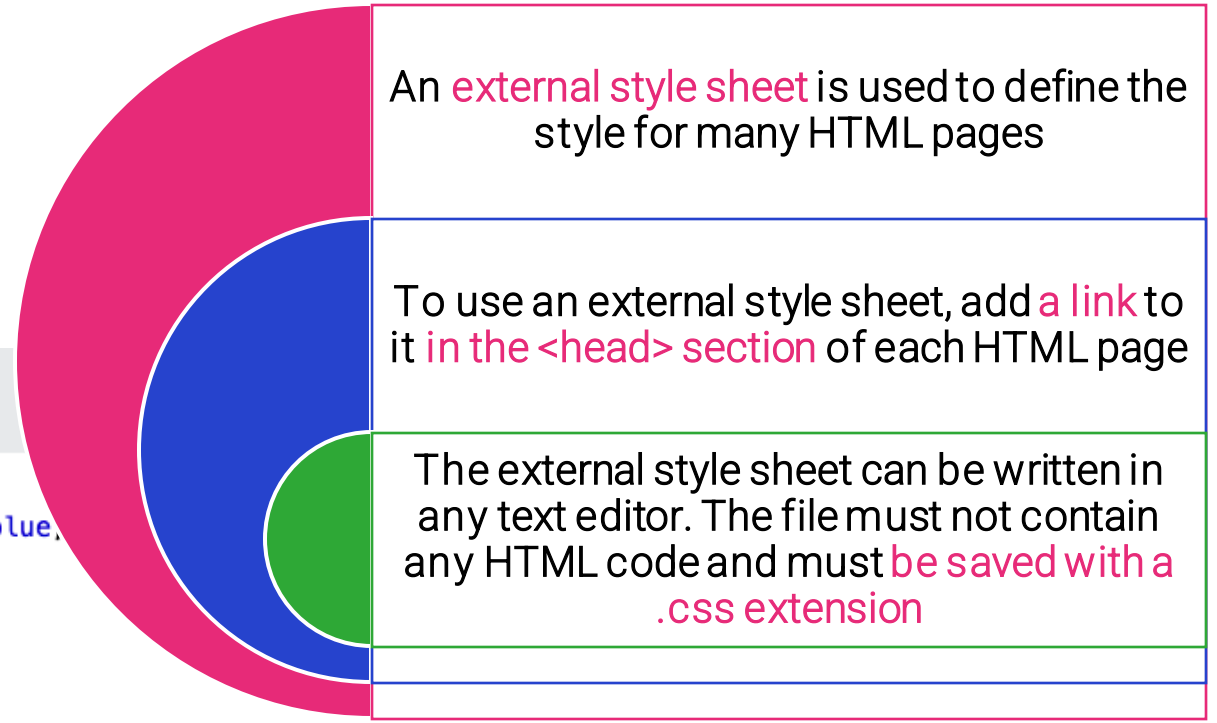
```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" href="styles.css">
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

"styles.css":

```
body {
  background-color: powderblue;
}
h1 {
  color: blue;
}
p {
  color: red;
}
```



An external style sheet is used to define the style for many HTML pages

To use an external style sheet, add a link to it in the <head> section of each HTML page

The external style sheet can be written in any text editor. The file must not contain any HTML code and must be saved with a .css extension

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CSS properties

- COLOR >> defines the text color to be used
- MARGIN >> defines a margin (space) outside the border
- PADDING >> defines a padding (space) between the text and the border
- FONT-FAMILY >> defines the font to be used
- FONT-SIZE >> defines the text size to be used
- BORDER >> defines a border around an HTML element
- LINK to External CSS

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HTML <script> Tag

The HTML **<script>** tag is used to define a client-side script (JavaScript)

The **<script>** element either contains script statements, or it points to an external script file through the **src attribute**

Common uses for JavaScript are **image manipulation, form validation, and dynamic changes of content**

To select an HTML element, JavaScript most often uses the **document.getElementById()** method

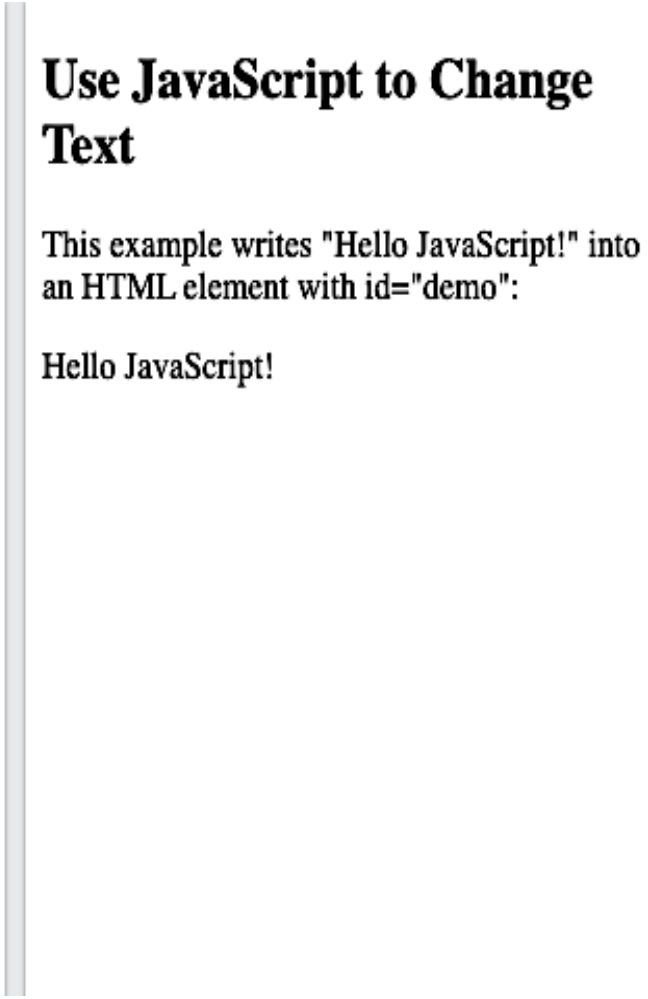
```
<!DOCTYPE html>
<html>
<body>

<h2>Use JavaScript to Change
Text</h2>
<p>This example writes "Hello
JavaScript!" into an HTML element
with id="demo":</p>

<p id="demo"></p>

<script>
document.getElementById("demo").i
nnerHTML = "Hello JavaScript!";
</script>

</body>
</html>
```



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HTML & JavaScript

JavaScript makes HTML pages more dynamic and interactive

```
<!DOCTYPE html>
<html>
<body>

<h1>My First JavaScript</h1>

<button type="button"
onclick="document.getElementById('demo')
.innerHTML = Date()">
Click me to display Date and Time.
</button>

<p id="demo"></p>

</body>
</html>
```

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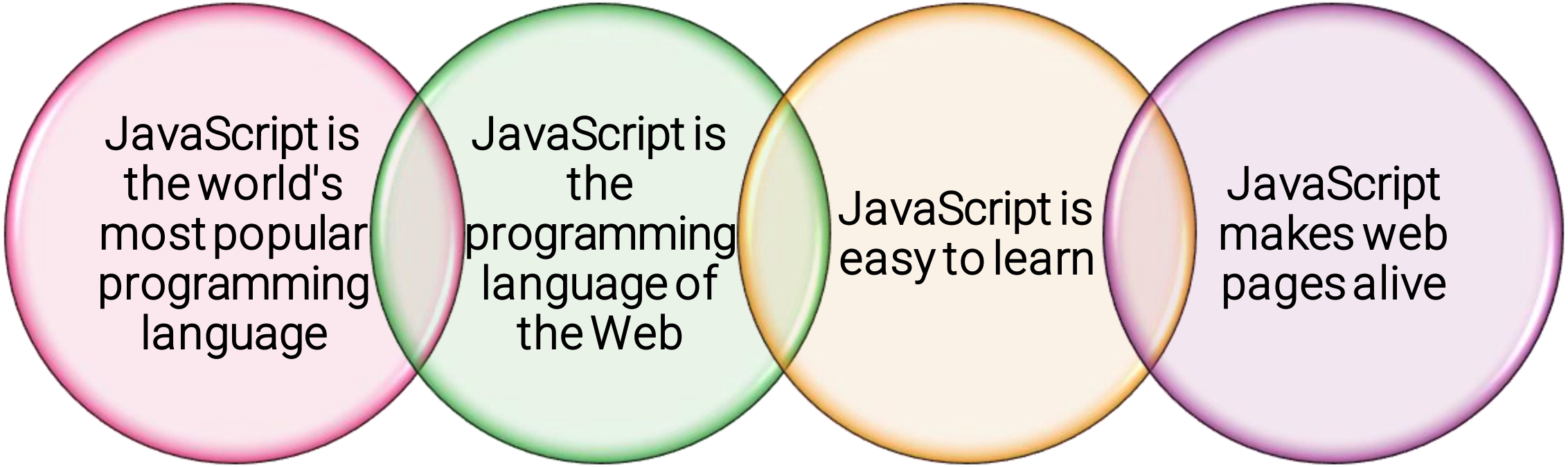
JavsScript


JavaScript is the world's most popular programming language
JavaScript is the programming language of the Web
JavaScript is easy to learn
JavaScript makes web pages alive

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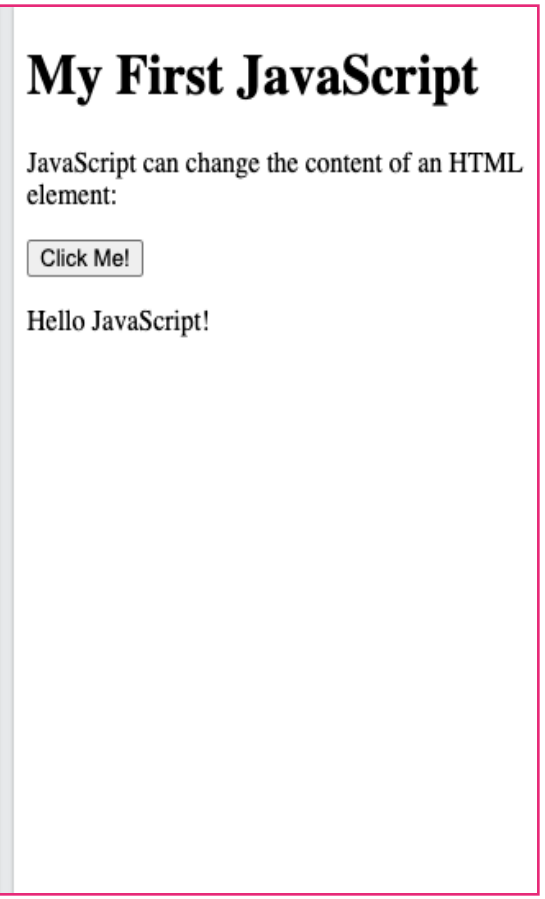
A Taste of JavaScript

```
<!DOCTYPE html>
<html>
<body>

<h1>My First JavaScript</h1>

<p>JavaScript can change the
content of an HTML element:</p>

<button type="button"
onclick="myFunction()">Click Me!
</button>

<p id="demo">This is a
demonstration.</p>

<script>
function myFunction() {

 document.getElementById("demo").i
nnerHTML = "Hello JavaScript!";
}
</script>

</body>
</html>
```




```
<!DOCTYPE html>
<html>
<body>

<h1>My First JavaScript</h1>

<p id="demo">JavaScript can change
the style of an HTML element.</p>

<script>
function myFunction() {

 document.getElementById("demo").s
tyle.fontSize = "25px";

 document.getElementById("demo").s
tyle.color = "red";

 document.getElementById("demo").s
tyle.backgroundColor = "yellow";

}
</script>

<button type="button"
onclick="myFunction()">Click Me!
</button>

</body>
</html>
```

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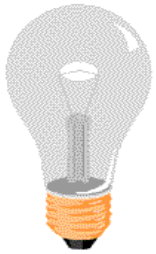
A Taste of JavaScript

```
<!DOCTYPE html>
<html>
<body>

<h1>My First JavaScript</h1>
<p>Here, a JavaScript changes the value of the src (source) attribute of an image.</p>

<script>
function light(sw) {
  var pic;
  if (sw == 0) {
    pic = "pic_bulboff.gif"
  } else {
    pic = "pic_bulbon.gif"
  }

 document.getElementById('myImage'
).src = pic;
}
</script>

<img id="myImage"
src="pic_bulboff.gif" width="100"
height="180">

<p>
<button type="button"
onclick="light(1)">Light
On</button>
<button type="button"
onclick="light(0)">Light
Off</button>
</p>

</body>
</html>
```

My First JavaScript

Here, a JavaScript changes the value of the src (source) attribute of an image.



Light On | Light Off

```
<!DOCTYPE html>
<html>
<body>

<h1>My First JavaScript</h1>
<p>Here, a JavaScript changes the value of the src (source) attribute of an image.</p>

<script>
function light(sw) {
  var pic;
  if (sw == 0) {
    pic = "pic_bulboff.gif"
  } else {
    pic = "pic_bulbon.gif"
  }

 document.getElementById('myImage'
).src = pic;
}
</script>

<img id="myImage"
src="pic_bulboff.gif" width="100"
height="180">

<p>
<button type="button"
onclick="light(1)">Light
On</button>
<button type="button"
onclick="light(0)">Light
Off</button>
</p>

</body>
</html>
```

My First JavaScript

Here, a JavaScript changes the value of the src (source) attribute of an image.

Light On | Light Off

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Classified as General

Free resources to read and practice:

https://www.w3schools.com/html

https://www.w3schools.com/css

https://www.w3schools.com/js

https://www.freecodecamp.org/learn

https://mastery.games/flexboxzombies

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Home assignment

User Story #1: I can see a title with id="title" in H1 sized text.

User Story #2: I can see a short explanation with id="description" in P(paragraph) sized text.

User Story #3: I can see a form with id="survey-form".

User Story #4: Inside the form element, I can enter my name in a field with id="name".

User Story #5: Inside the form element, I can enter an email in a field with id="email".

User Story #6: Inside the form, I can enter a number in a field with id="number".

User Story #7: For the name, email, and number input fields inside the form I can see corresponding labels that describe the purpose of each field with the following ids: id="name-label", id="email-label", and id="number-label".

User Story #8: For the name, email, and number input fields, I can see placeholder text that gives me a description or instructions for each field.

User Story #9: Inside the form element, I can select an option from a dropdown that has a corresponding id="dropdown".
*Maybe also some radio buttons and checkboxes if you feel for doing something extra? 😉

User Story #10: Inside the form element, I am presented with a textarea at the end for additional comments.

User Story #11: Inside the form element, I am presented with a button with id="submit" to submit all my inputs.

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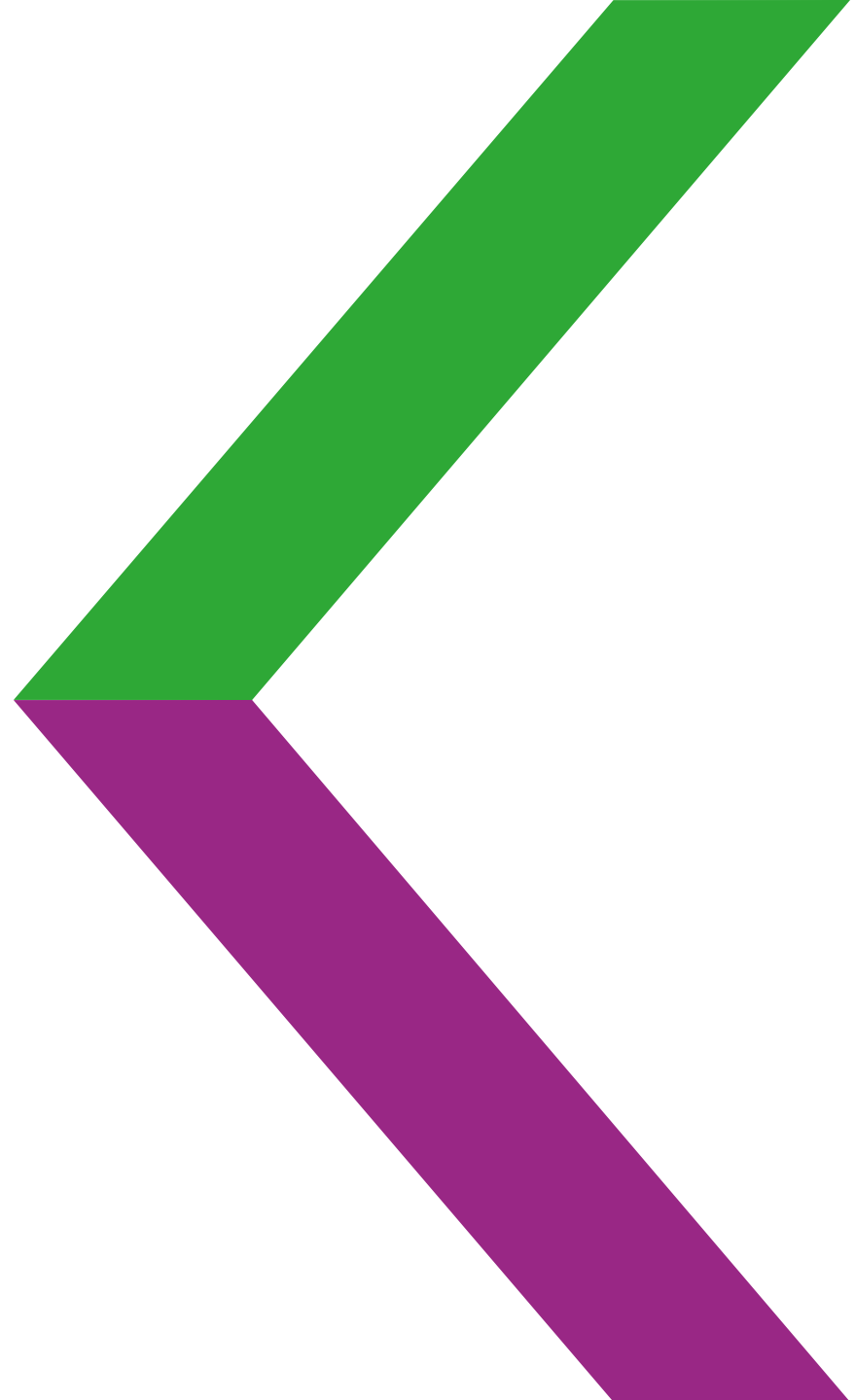
Classified as General

Home assignment:

You can use HTML, JavaScript, and CSS to complete this project. Plain CSS is recommended because that is what the lessons have covered so far and you should get some practice with plain CSS. Additional technologies (just for example jQuery, React, Angular, or Vue) are not recommended for this project, it's better just to focus on a logic part here.



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Questions?

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Thank You

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